REVISION OF THE AUSTRALIAN *AMARYGMIDES*.

By the Rev. T. Blackburn, B.A., Corr. Mem.

Part II.

THE GENUS *CHALCOPTERUS* (continued).

Since I forwarded to the Linnean Society the first part of this memoir, *Amarygmides* have been pouring in to me in large numbers from many valued correspondents, who wished me to name their specimens, with the result that I have been obliged to add some new species of *Chalcopterus* to those already described, and to re-write my tabulation of the genus. I have also, through the great kindness of Mr. Masters, had the opportunity of inspecting the types of the two *Amarygmides (velutinus* and *viridicollis*—both *Chalcopteri)* described by Mr. W. S. Macleay, and through the generosity of Mr. Olliff have become possessed of specimens compared with the types of several of Sir W. Macleay's species, while Mr. Skuse has done me the favour of confirming (by comparison with the types) two of my determinations of Sir W. Macleay's species *(Chalcopterus grandis* and *Amarygmus striatus)*, and of writing descriptions for me of two of that learned author's species *(obsoletus* and *picipes)*, which were the only two remaining unknown to me.

In one respect I have considered it desirable to depart from the plan I laid down for myself at the outset and mentioned in the first part of this memoir by including in the tabulation the species whose identification with existing descriptions I regard as doubtful. On the whole I have thought it better to include these for the purpose of giving greater completeness to my "Revision." In doing so I must repeat what I said at the

outset—that I have very little doubt my nomenclature will sooner or later undergo much correction. I am satisfied that under the circumstances (many of the existing descriptions being completely insufficient, and the types being scattered all over the world, and not a few of them having probably perished) it is *impossible for anyone* to identify all the previously described species with certainty. This being the case, the first step towards clearing up the hopeless confusion must be, I think, a general revision of the genus which shall enable students to identify the species to which the author of that revision attributes the names of other authors. When that is done there is something to work upon, and it will be easy for those in one place and another who have access to the types to correct the inevitable inaccuracies of this first revision. How far I have succeeded in my attempt to enable others to identify the insects to which I have applied the various names, and so to determine whether I am right or wrong, of course has yet to be put to the test. I offer my attempt to the Society with much diffidence, but not without hope that this first revision of the genus may lead to the possibility eventually of a re-revision, the accuracy of which will be much more reliable. It will be noticed that in the tabulation I have indicated the names that I have been able to connect with species only doubtfully by enclosing them in brackets. There are now only four existing names likely to be of *Chalcopteri* which I have been obliged to disregard altogether on the ground that I cannot connect them with any insect known to me and that the descriptions of them do not justify their assignment to a place in my tabulation, viz., *cupricollis*, Hope, *obtusus*, Pasc., *puncticollis*, Hope, *smaragdulus*, Fab. ; the rest of the described Australian *Amarygmides* are either to be found in the following tabulation, or in the list of probable synonyms (in Part I. of this memoir), or are probably true *Amarygmi*.

It is necessary to say a few words about the characters that have appeared to me most reliable and most easily observed as distinguishing the species of *Chalcopterus inter se*. I may remark that the tabulated statement of the specific characters

which follows is the result of a good deal of study and not a few unsuccessful attempts to produce a satisfactory tabulation. As regards colour, I am afraid it is as nearly as possible useless for classificatory purposes. There is no species of which I have seen numerous specimens that I have not ascertained to be variable in respect of colour. Nevertheless, my observations certainly go to show that the absence of *all* colour from particular parts of the body is clearly specific. I know no species, *e.g.*, having the prothorax or undersurface generally of brilliant metallic colours, but occasionally varying by the absence of those colours, nor any *vice versa*—with the one exception that, as far as I have seen, I should judge most species to be liable to the loss of colour from the whole body—so as to be entirely black. I think, too, that the *direction* of the colouring on the elytra is very little variable, the different colours running in well defined longitudinal vittæ *(e.g.)* being a fairly reliable character. I have, however, made very little use of colour in characterising species.

The main difficulty, as usual in classification, I have found to be the selection of characters for the principal divisions, whatever character is selected appearing to be feebly defined yet not quite wanting in a few intermediate forms. After several abortive attempts to divide *Chalcopterus* into two main groups, I have found that the most workable character for the purpose is the presence or absence of a sulcus bordering the internal or antero-internal margin of the eye. Nearly all the species have either no sulcus at all or a very strongly defined one ; nevertheless, there are a few in which there is a feeble indication only of this "ocular sulcus," and I have found it necessary in adopting this character as the main classificatory character of the genus to indicate by a special mark in the tabulation certain species (placed among those in which the ocular sulci are absent) in which a doubt might be possible.

The form of the prothorax is very different in different species and appears to be quite constant, so that I have been able to use it with great confidence in tabulating the distinctions of the species, and a similar satisfactory result is attained by noting the

colour of the vestiture of the underside of the tarsi and the width of the interval between the eyes. This latter character might be regarded with natural suspicion as likely to be only sexual, but I do not find that to be the case. In the instance of the few species in which I have been able to make sure of the sexes by the dissection of the internal organs, I have found that the eyes of the male are as widely separated from each other as those of the female.

The external sexual distinctions appear to be very slight. The male is usually somewhat smaller and narrower than the female, and his antennæ and tarsi are usually a little longer and more slender.

A. Eyes not (or scarcely) bordered by a sulcus.

B. Legs entirely of dark colour.

C. Underside not metallic-iridescent.

D. Tarsal vestiture black or nearly so.

E. Prothorax of normal form and sculpture (*i.e.*, not as EE, EEE, &c.).

F. Elytra not (or scarcely) striate.

G. Seriate puncturation of elytra entire.

H. Size moderate or small (under 8 lines).

I. Head punctulate between the eyes.

J. Interstices of elytra distinctly and more or less closely punctulate.

K. Punctures in lateral series of elytra close [at least 4 punctures (in 7th entire series) in a length equal

to the width of the interstice between the 7th and 8th series].

L. A conspicuous nitid lævigate space on the middle line of the face.

M. Width of the interval between the eyes not (or scarcely) less than the length of the third joint of the antennæ.

N. Punctures on prothorax faintly impressed but not very fine.

O. Front piece of clypeus strongly concave behind..... *clypealis*, Blackb.

OO. Front piece of clypeus of ordinary shape.

P. Elytra strongly gibbous behind base... *simius*, Blackb.

PP. Elytra much less strongly convex... *cupripennis*,* Germ., Blessig, Blackb., nec Hope.

NN. Punctures on prothorax less feeble and very fine..... *versicolor*, Blackb.

MM. Width of interval between eyes much less..... *tinctus*, Blackb.

---

* This species is no doubt *affinis*, Blessig (also *Howitti*, Pasc.), but is not *cupripennis*, Hope, as it has generally been called (*vide infra*, p. 70).

LL. Face evenly punctured or nearly so.

M. Punctures of elytral interstices extremely strong and coarse..... *rugosipennis*, Macl.

MM. Punctures of interstices much less strong and coarse (as fine as in *cupripennis*, Blackb.).

N. Prothorax fully twice as wide as long. ... . **exoletus*, Blackb.

NN. Prothorax less than twice as wide as long ..... **difficilis*, Blackb.

KK. Punctures in lateral series of elytra less close [less than 4 punctures (in 7th entire series) in a length equal to the width of the interstice between the 7th and 8th series] *variabilis*, Blessig.

JJ. Interstices of elytra lavigate or very finely and sparsely punctured (very much more so than in *cupripennis*, Blackb.).

K. Prothorax notably less than twice as wide as long.

L. Punctures in the elytral series sparse (sc. intervals between puncture

* These species have some traces of ocular sulci.

and puncture generally much longer than diameter of individual punctures)..... **lætus*, Blackb.

LL. Punctures in elytral series close (*sc.* intervals shorter than diameter of punctures).

M. Form convex; elytral interstices distinctly though very finely and sparsely punctulate.... *juvenis*, Blackb.

MM. Form more depressed; elytral interstices scarcely visibly punctured, even under a Coddington lens..... ..... *curvus*, Blackb.

KK. Prothorax not or scarcely less than twice as wide as long.

L. Seriate punctures of elytra fine (not coarser than in *variabilis*, Blessig).

M. Basal joint of hind tarsi not noticeably shorter than joints 2-4 together (exclusive of the claws).

N. Seriate punctures of elytra faint, feeble, and close... ..... *vigilans*, Blackb.

NN. Seriate punctures much better marked and less close .. *proximus*, Blackb.

* These species have some traces of ocular sulci.

MM. Basal joint of hind tarsi notably shorter.
N. Interval between eyes scarcely narrower than length of basal joint of antennæ..... *sparsus*, Blackb.
NN. Interval between eyes much narrower than length of basal joint of antennæ..... *Cairnsi*, Blackb.
LL. Seriate punctures of elytra much coarser (more so than in *variabilis*, Blessig) .... *modestus*, Blackb.
II. Head not punctulate between the eyes..... *bellus*, Blackb.
HH. Size large (long. 8 lines or more).
I. Basal joint of hind tarsi not (or scarcely) longer than apical joint.
J. Prothorax fully twice as wide as long..... [*cupreus*, Fab.]
JJ. Prothorax evidently less transverse..... *brevipes*, Blackb.
II. Basal joint of hind tarsi much longer than apical joint..... *grandis*, Macl.
GG. Seriate puncturation of elytra obliterated (or nearly so) close to front margin.
H. Width of interval between the eyes not greater than length of basal joint of antennæ.
I. Basal joint of hind tarsi fully as long as joints 2-4 together *placidus* Blackb.

II. Basal joint of hind tarsi not so long..... *Froggatti*, Blackb.

HH. Width of interval between the eyes notably greater than length of basal joint of antennæ..... .... *polychromus*, Pasc.

FF. Elytra very distinctly striate from base to apex.

G. Prothorax narrowed in a continuous curve from base to apex.

H. Form very narrow and parallel *interioris*, Blackb.

HH. Form oval, much wider..... *Mastersi*, Blackb.

GG. Sides of prothorax subparallel in their basal half..... *superbus*, Blackb.

EE. Base of prothorax not more than half again as wide as the front, front angles prominent and acute.

F. Width of interval between the eyes greater than length of basal joint of antennæ.

G. Interstices of elytra more or less convex.

H. Elytra very strongly striate... *suturalis*, Pasc.

HH. Elytra scarcely distinctly striate ..... *purpureus*, Germ.

GG. Interstices of elytra quite flat *vividus*, Blackb.

FF. Width of interval between the eyes much less..... *intermedius*, Blackb.

EEE. Prothorax very strongly transverse and with strong (laterally almost confluent) punctuation.

F. Interstitial and seriate punctures of elytra quite similar *inter se*.. *confluens*, Blackb.

FF. Seriate punctures of elytra very distinctly larger and stronger than the interstitial..... { *fastuosus*, Germ. *obsoletus*, Macl.

EEEE. Prothorax trapezoidal *(i.e.*, sides viewed from above almost rectilinear).

F. Front of prothorax not abruptly truncate, its puncturation feeble.

G. Interstices of elytra very distinctly punctulate.

H. Seriate punctures of elytra very conspicuous (sculpture almost as in *cupripennis*, Blackb.)..... *eyrensis*, Blackb.

HH. Seriate punctures much less distinct (sculpture almost as in *fastuosus*)..... *micans*, Blackb.

GG. Interstices of elytra almost impunctate..... *Palmerstoni*, Blackb.

FF. Front of prothorax abruptly truncate, its puncturation very strong..... *perlongus*, Blackb.

EEEEE. Prothorax small, subgibbous, nitid, with extremely sparse puncturation..... *prospiciens*, Blackb.

DD. Tarsal vestiture ferruginous or fulvous.

E. Prothorax normal *(i.e.*, not as EE).

F. Width of prothorax across front less than $\frac{2}{3}$ of its width across the base.

G. Interval between the eyes not (or scarcely) wider than length of basal joint of antennæ (much narrower than in *cupripennis*, Blackb.).

H. Interval between the eyes not narrower than length of 2nd antennal joint.

I. Interstices flat throughout.

J. Interstices distinctly punctulate.

K. Interval between eyes about equal in width to length of basal joint of antennæ.

L. Seriate punctures of elytra moderate or fine.

M. Prothorax scarcely more than half again as wide as long..... *obscurus*, Blackb.

MM. Prothorax much more than half again as wide as long.

N. Seriate punctures of elytra obsolete near apex..... *velutinus*, W. S. Macl.

NN. Seriate punctures of elytra not enfeebled near apex..... *rusticus*, Blackb.

LL. Seriate punctures large foveæ as in *cylindricus* *nobilis*, Blackb.

KK. Interval between eyes distinctly narrower than length of basal joint of antennæ..... *neglectus*, Blackb.

JJ. Interstices not distinctly punctulate.

K. Prothorax black and more or less nitid.

L. Punctures in the elytral series close (much as in *variabilis*, Blessig)..... *minor*, Blackb.

LL. Punctures in the elytral series much less close and of oblong form..... *hunterensis*, Blackb.

KK. Prothorax bright blue.... *pulcher*, Blackb.

II. Interstices (at least in part) distinctly convex.

J. Prothorax very notably less nitid than the elytra.

K. Size very large (long. 8½ lines)..... *major*, Blackb.

KK. Size much smaller (long 7 lines)..... *mercurius*, Blackb.

JJ. Prothorax not noticeably less nitid than the elytra *mimus*, Blackb.

HH. Eyes almost contiguous..... *ocularis*, Blackb.

GG. Interval between the eyes wider than length of basal joint of antennæ (not much narrower than in *cupripennis*, Blackb.).

H. Seriate punctures of elytra fine and close (more than 2 in a length equal to the width of the adjacent interstice).

I. Interstices flat and distinctly punctured.

J. Prothorax very evenly narrowed forward from its base..... ..... *similis*, Blackb.

JJ. Prothorax not much narrowed forward in its basal half..... **Leai*, Blackb.

II. Interstices convex and impunctulate..... *longiusculus*, Blackb.

HH. Seriate punctures of elytra large foveæ (less than 2 in a length equal to the width of the adjacent interstice) *cylindricus*, Blackb.

FF. Width of prothorax in front fully $\frac{2}{3}$ of its width at the base *Bovilli*, Blackb.

EE. Prothorax nearly parallel-sided in the hinder half.

F. Prothorax not wider in the middle than at the base.

G. Prothorax evenly punctulate.

H. Interstices of elytra very finely punctured.

I. Prothorax extremely convex, closely punctured..... *colossus*, Blackb.

II. Prothorax much less convex, sparsely punctured..... *palmerensis*, Blackb.

HH. Interstices of elytra exceptionally coarsely punctured *imperialis*, Blackb.

GG. Prothorax very unevenly punctulate (*i.e.*, large impunctulate spaces)..... ..... *longulus*, Blackb.

FF. Prothorax notably wider at the middle than at the base. ..... *laticollis*, Blackb.

---

* This species has faint traces of ocular sulci.

CC. Underside of metallic colour.

D. Tarsal vestiture black.

E. Interstices of elytra distinctly punctulate.

F. Form oval..... *fervens*, Germ.

FF. Form elongate-parallel..... *longipennis*, Hope.

EE. Interstices of elytra not punctulate..... *iridiventris*, Blackb.

DD. Tarsal vestiture fulvous.

E. Size large, form oval (moderately wide)..... *setosus*, Blackb.

EE. Size small, form very narrow and parallel..... *gracilior*, Blackb.

BB. Femora red..... *amethystinus*, Fab.

AA. Eyes bordered within by a deep and more or less wide sulcus or fovea.

B. Legs entirely of dark colour.

C. Tarsal vestiture black or pitchy-black.

D. Width of interval between eyes equal (or nearly so) to length of basal joint of antennæ.

E. Species of small or moderate size—at most less than long. $8\frac{1}{2}$ lines.

F. Species not having both prothorax and elytral interstices devoid of puncturation.

G. Seriate punctures of elytra quite well defined and conspicuous (at least in part).

H. Ocular sulci elongate, extending a good deal along the inner and front margins of the eyes.

I. Interstices flat or nearly so.
J. Form elongate-oval or more or less parallel.
K. Ocular sulci extremely strongly impressed.
L. Elytra variegated with stripes of different colours.
M. Seriate puncturation of elytra fine (very little less so than in *cupripennis*, Blackb.)..... [*resplendens*, Boisd.]
MM. Seriate puncturation of elytra much coarser..... *iridicolor*, Blessig.
LL. Elytral colours uniform (green or reddish-copper, according to the point of view)..... [*vinosus*, Pasc.]
KK. Ocular sulci much more feebly impressed.
L. Seriate puncturation of elytra entire.
M. Interstices of elytra impunctate and very nitid..... *viridicollis*, W. S. Macl.
MM. Interstices of elytra not both impunctate and very nitid.
N. Prothorax opaque..... *opacicollis*, Macl.
NN. Prothorax nitid..... *eremita*, Blackb.
LL. Seriate puncturation of elytra very irregular, only here and there distinct..... *semiseriatus*, Blackb.

JJ. Form obovate (wide about base of elytra and much narrowed hindward)..... *punctipennis*, Macl.

II. Interstices from base to apex decidedly convex..... *plutus*, Blackb.

HH. Ocular sulci foveiform, placed at the antero-internal angle of the eye.

I. Elytral interstices more or less strongly punctured (at least as strongly as in *cupripennis*, Blackb.).

J. Prothorax nitid..... *murrayensis*, Blackb.

JJ. Prothorax opaque..... *punctulatus*, Blackb.

II. Elytral interstices much more finely punctured..... *macer*, Blackb.

GG. Seriate punctures of elytra confused among those of the interstices (after the manner of *fastuosus*, Germ.)..... *oblongus*, Blackb.

FF. Both prothorax and elytral interstices devoid of distinct puncturation..... *Meyricki*, Blackb.

EE. A very large broad species (long. 9-9½ lines)..... *rugosicollis*, Macl.

DD. Width of interval between eyes not (or scarcely) less than length of 3rd joint of antennæ.

E. Elongate species.

F. A brilliantly nitid species of subcylindric form..... *lepidus*, Blackb.

FF. Much less nitid; form elongate-oval.

G. Seriate puncturation of elytra extremely feeble..... *inconspicuus*, Blackb.

GG. Seriate puncturation of elytra very well marked..... *yorkensis*, Blackb.

EE. A short species of very widely oval form..... *segnis*, Blackb.

DDD. Width of interval between eyes scarcely exceeding length of 2nd joint of antennæ. ..... [*semiticus*, Pasc.]

CC. Tarsal vestiture fulvous.

D. Prothorax punctured (eyes bordered above the sulcus by a small carina).

E. Seriate punctures of elytra very large, some of them as wide as an interstice..... *catenulatus*, Blackb.

EE. Seriate punctures of elytra much smaller..... *carinaticeps*, Blackb.

DD. Prothorax impunctulate..... *lævicollis*, Blessig.

BB. Legs red..... *rufipes*, Macl.

Chalcopterus cupripennis, Hope.

Some time ago I forwarded a number of examples of Australian *Tenebrionidæ*, under the names with which I have, to the best of my ability, identified them, to Mr. G. C. Champion, the eminent European specialist in that family, and included among them various *Amarygmides*. Mr. Champion writes me that, having occasion to examine some of Hope's types in the Oxford University Museum, he took the opportunity to compare the specimen that I sent to him as *Cnodulon cupripenne*, Hope (which is identical with the insect that in the present memoir I have called *Chalcopterus cupripennis)*, with Hope's type, and found the latter to differ in the following respects, viz.—prothorax less black and more closely punctured, seriate punctures of elytra less distinct and more distant, interstices more thickly punctured, "&c." As

these characters, if not strongly developed (with the exception of that concerning the colour of the prothorax), are in the main the characters that in Part I. of this memoir I have indicated as distinguishing the male from the female, and as I am not sure whether I sent to Mr. Champion a male, a female, or both sexes of the insect which I take to be *cupripennis*, Hope, I shall await further correspondence, with which I hope Mr. Champion will favour me, before I regard the correctness of my identification as disproved;* but I think it well to embody Mr. Champion's observation in this memoir, so that those who make use of the memoir may be on their guard to rely on my description of the insect rather than on the name, and to call it "*Chalcopterus cupripennis*, Blackb. (? Hope)," for the present, and until a further expression of opinion from Mr. Champion, which I doubt not that gentleman with his usual friendly courtesy will send me in due course, shall enable me to report to the Linnean Society more definitely on the point. It is of course likely enough that the "&c." at the end of Mr. Champion's note quoted above may include characters that will be quite decisive.

C. EXOLETUS, sp.nov.

C. difficili, Blackb., affinis; minus nitidus; elytris (exempli typici) purpureo, certo adspectu viridi-micantibus; antennis (♂ ?) apicem versus haud incrassatis, articulo 3° quam 4^us^ 5^us^que conjuncti sat breviori, articulis 8-10 quam præcedentes nullo modo brevioribus; prothorace quam longiori (et postice quam antice) duplo minimum latiori; elytrorum puncturis seriatis postice minus fortiter impressis.

[Long. 7, lat. 4 lines.

* In a later communication Mr. Champion expresses himself fully convinced that the differences are specific, a determination which I regard as conclusive. The insect that I have throughout this revision called *cupripennis*, Hope, must, therefore, bear the name of *affinis*, Blessig, if I am right in thinking that name to represent a mere var. of *cupripennis*, Blessig (nec Hope); it is with still greater certainty the species that Mr. Pascoe described subsequently as *A. Howitti*. It is undoubtedly, I think, the insect that Germar and Blessig believed to be *cupripennis*, Hope. Unfortunately, I followed them.

This species is so closely allied to *C. difficilis* that it seems needless to repeat the diagnosis at length, as the whole of it, subject to the exceptions noted above, may be read as applying to this species, which (placed besides *C. difficilis)* strikes the eye at once as a much larger and less nitid insect with a very evidently more transverse prothorax. On measurement the prothorax is found to be at least twice (or even a trifle more) as wide as long, whereas in *difficilis* the width is about once and four-fifths the length. It is unusual among the *Chalcopteri* to find the prothorax *by measurement* quite twice as wide as long, though in a good many species that segment appears so to a casual glance. The antennæ differ considerably from those of *C. difficilis* (as noted above), but it is doubtful whether the antennæ of the *same sex* in the two could be relied on to maintain those differences. The more transverse prothorax and less nitid surface, as well as the absence of well-defined ocular sulci, *inter alia* distinguish *C. exoletus* from *C. eremita*, Blackb. An example in Mr. French's collection of slightly more evenly oval form, with the green colour predominating and the whole sculpture a little "blurred," is, I think, only an aberrant specimen. It is from the same locality.

N. Queensland ; Palmer R. ; sent by C. French, Esq.

C. PROXIMUS, sp.nov.

C. modesto, Blackb., affinis ; oculis quam antennarum articuli basalis longitudine manifeste minus inter se remotis ; elytris subtiliter seriatim punctulatis, puncturis in seriebus inter se sat æqualibus sat crebre positis ; cetera ut *C. modesti.*

[Long. $3\frac{4}{5}$, lat. $2\frac{1}{5}$ lines.

This species is unsatisfactorily like *C. modestus* in its colouring and in most of its characters, but is distinguished from it by two characters which seem to me quite inconsistent with specific identity, the eyes being much more approximate *inter se* (separated by a space not much wider than the length of the 2nd joint of the antennæ) and the seriate puncturation of the elytra being quite on a different system [it consists of very fine deep punctures of very even size (a trifle larger in the outer than the inner series)

placed quite closely in the rows, nearly as fine and closely placed as those of *C. cupripennis*, Blackb.]. This species also resembles *C. vigilans*, Blackb., but is very much smaller, with the eyes a little less approximate and the punctures of the elytral series deep and sharply defined, whereas in *vigilans* they are so faintly impressed that even on the discal part of the elytra they might almost be called subobsolete.

Queensland; Port Denison; sent by Mr. Masters.

C. Cairnsi, sp.nov.

Sat late ovalis; sat convexus; minus nitidus; cyaneo-niger, prothorace sat læte cyaneo, elytris æneis obscure purpureo-tinctis; oculis quam antennarum articuli basalis longitudine multo minus inter se remotis; sulcis ocularibus haud plane nullis; antennis robustis quam corporis dimidium sat brevioribus, apicem versus parum incrassatis, articulo 2° quam 1^{us} 2^{us}que conjuncti vix longiori quam 4^{us} 5^{us}que conjuncti sat breviori, articulis apicalibus quam præcedentes haud brevioribus; prothorace quam longiori (et postice quam antice) fere duplo latiori, antice emarginato (vix bisinuatim), a basi antrorsum sat æqualiter sat arcuatim angustato, distincte subtiliter minus crebre punctulato, basi media sublobata, angulis obtusis; elytris modice (quam *C. variabilis*, Blessig, vix minus fortiter) sat æqualiter seriatim punctulatis, interstitiis planis sparsim subtilissime punctulatis; prosterno medio sulcato; metasterno medio distincte, abdomine subtilissime, sparsim punctulatis; hoc longitudinaliter subtiliter rugato; femoribus anticis antice sparsim distincte punctulatis; tarsis subtus nigro-setosis, posticorum articulo basali quam ceteri conjuncti manifeste breviori. [Long. 5¾, lat. 3½ lines.

This species is somewhat isolated, but its place in the tabulation is, I think, among its real allies. If its colouring is constant (I have seen only two specimens) it is easily known by the cyaneous tone of its undersurface, together with its bright blue prothorax and dull bronzy-æneous elytra, which are more or less tinged with dark purple. Its eyes are not bordered by true sulci, but the

intermediate space being distinctly convex there is a slightly sulcate appearance to a casual glance where the lateral declivity of the intermediate space meets the eyes. If it were to be regarded as having ocular sulci, it would have to be placed beside the species that I take to be *C. semiticus*, Pasc., from which it differs *inter alia* by its very different shape and shorter 3rd joint of antennæ.

Queensland; Cairns district; sent by Mr. Masters.

C. Mastersi, sp.nov.

(♂ ?) Late ovalis; nitidus; niger, elytris cæruleis vel viridibus purpureo-aureoque versicoloribus; capite sat æqualiter distincte punctulato; oculis quam antennarum articuli basalis longitudine sat magis inter se remotis; sulcis ocularibus fere nullis; antennis quam corporis dimidium sat brevioribus apicem versus vix incrassatis, articulo 3° quam 1^{us} 2^{us}que conjuncti parum longiori quam 4^{us} 5^{us}que conjuncti parum breviori, articulis apicalibus quam præcedentes haud brevioribus; prothorace subopaco quam longiori (et postice quam antice) fere duplo latiori, sat subtiliter sat crebre vix æqualiter punctulato, antice leviter bisinuatim emarginato, a basi antrorsum (superne viso) arcuatim angustato, basi media sublobata, angulis anticis obtusis posticis (superne visis) fere rectis; elytris a basi ad apicem manifeste striatis, striis postice profundioribus crebre sat subtiliter punctulatis (puncturis apicem versus majoribus), interstitiis fere planis sat crebre sat subtiliter punctulatis; prosterno medio antice carinato; metasterno in medio subtiliter (latera versus vix manifeste) punctulato ad latera oblique rugato, abdomine sparsim subtilissime punctulato et obscure rugato; femoribus anticis antice distincte sparsim punctulatis; tarsis subtus nigro-setosis, posticorum articulo basali quam ceteri conjuncti paullo breviori. [Long. 7½, lat. 4 lines.

A fine handsome species allied to *C. superbus*, Blackb., and *interioris*, Blackb., but differing from both by its wide oval form, as well as (so far as I can judge from the few examples I have

seen) by the colours of its elytra not being arranged in well-defined longitudinal stripes. It resembles *C. longiusculus*, Blackb., (which is from the same locality) in the distinct striation of its elytra and to some extent in its colouring, but differs from it widely in other respects—its form being very different, its prothorax very much more transverse, &c., &c.

N. Territory of S. Australia; sent by Mr. Masters.

C. OBSOLETUS, Macl.

The following description of this insect has been furnished by Mr. Skuse, who has kindly examined the type and re-described it.

"Black, elytra dull greenish-black or bronzy-green. Eyes separated by a wide interval as in (the species I regard as) *cupripennis*, Hope, and margined within by a weakly defined sulcus. Prothorax as in (the species treated in this Revision as) *fastuosus*, Germ., in shape, with strong close puncturation, almost confluent at sides. Elytra scarcely perceptibly striate, their entire surface strongly, very closely, and irregularly punctured, the punctures more numerous and stronger than in (the species treated in this Revision as) *fastuosus*, Germ."

The bracketed portions of the above are interjected by myself, as Mr. Skuse is of course not responsible for the correctness of my identifications. *C. obsoletus* is evidently, from the above description, closely allied to *C. fastuosus*, Germ., with which I have bracketed it in the tabulation of the species. Mr. Skuse considers it distinct from the insect I sent him as *fastuosus*, and I have no doubt he is right.

C. PROSPICIENS, sp.nov.

Elongatus; sat parallelus; sat nitidus; niger, elytris viridibus cupreo-tinctis; capite inter oculos punctulato; oculis quam antennarum articuli secundi longitudine minus inter se remotis; sulcis ocularibus nullis; antennis (exempli typici) fere carentibus; prothorace nitido quam longiori fere duabus partibus (postice quam antice fere duplo) latiori, sparsissime subobsolete punctulato, antice leviter emarginato, a basi

antrorsum (superne viso) arcuatim angustato, basi media leviter sublobata, angulis anticis distinctis posticis (superne visis) obtusis; elytris seriatim punctulatis, puncturis seriatis subtilibus crebris, interstitiis planis fere subtilissime punctulatis; prosterno medio sulcato; metasterno (epipleuris inclusis) sparsim distincte punctulato et latera versus strigato; abdomine minus distincte punctulato longitudinaliter perspicue rugato; femoribus anticis antice sparsim subtiliter punctulatis; tarsis subtus nigro-setosis, posticorum articulo basali ceteris conjunctis longitudine sat æquali.

[Long. 7, lat. 3 lines.

An extremely elongate species resembling *C. perlongus* in general form, but with a small strongly convex prothorax more like that of *C. lævicollis*, Blessig. The prothorax is very nitid and distinctly (though quite faintly) impressed with very sparse punctures. The seriate puncturation of the elytra is very like that in *C. cupripennis*, Blackb., the puncturation of the interstices being a little finer and less close than in that species, but still quite distinct. The eyes so nearly meeting that they are separated by an interval narrower than the length of the 2nd joint of the antennæ is a character that distinguishes this insect from nearly all its congeners.

W. Australia; Nullabor Plains; sent by C. French, Esq.

C. VELUTINUS, W. S. Macl.

This species (the type of which I have had the advantage of inspecting, through the courtesy of Mr. Masters) is identical with an example from N. Queensland referred to by me under the heading of *C. obscurus* as possibly a local form of that insect, but more probably a distinct species. I am now satisfied that it is really distinct. It differs by its larger size (long. $7\frac{3}{4}$, lat. 4 lines), its prothorax markedly more transverse (fully once and three-quarters as wide as long), with sides less narrowed forward in their basal half and surface distinctly punctulate, and by the finer and closer punctures of its elytral series, which are not at all less fine and close than those of *C. cupripennis*, Blackb.

C. RUSTICUS, sp.nov.

Oblongo-ovalis ; modice nitidus ; niger, capite viridi-tincto, prothorace viridi (cupreo-tincto), elytris cupreo-purpureis (viridi-tinctis) ; capite sat subtiliter minus crebre punctulato ; oculis quam antennarum articuli basalis longitudine vix magis inter se remotis ; sulcis ocularibus fere nullis, antennis quam corporis dimidium multo brevioribus, articulo 3° 1° 2°que conjunctis longitudine sat æquali quam 4^us^ 5^us^que conjuncti sat breviori, articulis 8-10 quam præcedentes manifeste brevioribus ; prothorace quam longiori (et postice quam antice) fere duplo latiori, sat crebre sat subtiliter punctulato, antice modice emarginato, lateribus (superne visis) a basi antrorsum arcuatim angustatis, basi media sublobata, angulis anticis obtusis posticis (superne visis) subrectis ; elytris sat subtiliter seriatim punctulatis, interstitiis planis subtilissime punctulatis ; prosterno medio antice carinato ; corpore subtus minus distincte punctulato ; femoribus anticis antice sparsim sat perspicue punctulatis ; tarsis subtus fulvo-setosis, posticorum articulo basali quam ceteri conjuncti multo breviori.

[Long. 7-8, lat. $3\frac{1}{5}$-$4\frac{1}{5}$ lines.

A robust species not very close to any other known to me. The seriate puncturation of the elytra is similar to that of *C. variabilis*, Blessig, but it looks more conspicuous owing to the extreme fineness of the interstitial puncturation. In some respects this insect answers to the description of *C. obtusus*, Pasc., but I do not think it can be that species owing to the elytra of the latter being described as "haud versicolora," the tarsi as "slender" (they being rather exceptionally stout in the present insect), &c.

N. Queensland ; Palmer R. ; sent by C. French, Esq.

C. NOBILIS, sp.nov.

Ovalis ; paullo elongatus ; sat nitidus ; niger, prothorace leviter viridi-tincto, elytris aureo-viridibus (punctura rum fundo purpureo) ; capite subtilius minus crebre punctulato ; oculis quam antennarum articuli basalis longitudine vix magis

inter se remotis ; sulcis ocularibus fere nullis ; antennis quam corporis dimidium sat brevioribus, apicem versus vix incrassatis, articulo 3° quam 1^us^ 2^us^que conjuncti sat longiori quam 4^us^ 5^us^que conjuncti paullo breviori, articulis apicalibus quam præcedentes haud brevioribus ; prothorace quam longiori (et postice quam antice) tribus partibus latiori, subtiliter vix crebre punctulato, antice emarginato, a basi antrorsum (superne viso) arcuatim angustato, basi media leviter sublobata, angulis (superne visis) obtusis ; elytris seriatim foveatis, interstitiis planis subtilissime punctulatis ; prosterno medio antice carinato ; metasterno medio et abdomine sparsim subtiliter punctulatis, hoc obscure rugato ; femoribus anticis antice sparsim subtiliter punctulatis ; tarsis subtus fulvo-setosis, posticorum articulo basali apicalibus 2 conjunctis (unguibus exclusis) longitudine æquali.

[Long. 6½, lat. 3⅘ lines.

A very distinct species owing to the large foveiform punctures of the elytral series, two of which in one row form with the corresponding two of the next row the corners of a square. In the two examples that I have seen the elytra are of a deep rich green colour with golden reflections and the seriate foveæ are bright purple at the bottom.

N. Queensland ; Cooktown ; sent by Mr. French.

C. HUNTERENSIS, sp.nov.

Oblongo-ovalis ; sat nitidus ; niger, elytris cyaneis certo adspectu aureo- vel purpureo-micantibus ; *C. minori*, Blackb., affinis ; puncturis in elytrorum seriebus magis subtilibus, oblongis, magis sparsis ; cetera ut *C. minoris*.

[Long. 5½-6, lat. 3¼-3½ lines.

Very like the Western Australian *C. minor*, but with the seriate punctures of the elytra very different, being extremely fine elongate points (almost scratches) placed in the rows very notably further apart from each other than are the corresponding punctures in *C. minor*. This species must bear considerable resemblance to *C. cœlestis*, Pasc., but the eyes of that insect are

described as "approximate" (which certainly they are not in the specimens before me) and the seriate punctures as "rather fine"—a description that would have been quite insufficient if Mr. Pascoe had been dealing with the present insect. This species also resembles *C. lævicollis*, Blessig (which I take to be identical with *cœlestis*, Pasc.), but differs from it by its much more widely separated eyes devoid of ocular sulci, its non-trapezoidal prothorax, and the much finer seriate punctures of its elytra.

N.S.W.; Hunter R. district; sent by Mr. Masters.

C. PULCHER, sp.nov.

Elongato-ovalis, minus nitidus; niger, prothorace læte cæruleo, elytris cæruleis purpureo tinctis; capite subtiliter sat crebre punctulato; oculis quam antennarum articuli basalis longitudine fere magis inter se remotis; sulcis ocularibus nullis; antennis corporis dimidio longitudine æqualibus, apicem versus haud incrassatis, articulo 3° quam 1^{us} 2^{us}que conjuncti sat longiori quam 4^{us} 5^{us}que conjuncti vix breviori, articulis apicalibus quam præcedentes fere longioribus; prothorace quam longiori fere dimidio (postice quam antice plus quam duabus partibus) latiori, subtilissime distincte sat crebre punctulato, antice vix emarginato, a basi antrorsum (superne viso) arcuatim angustato, basi media sublobata, angulis omnibus (superne visis) obtusis; elytris sat fortiter seriatim punctulatis (fere ut *C. amethystini*, Fab.), interstitiis planis vix perspicue punctulatis; prosterno medio antice carinato; corpore subtus quam supra multo magis nitido, vix perspicue punctulato, obscure rugato; femoribus anticis antice distincte minus sparsim punctulatis; tarsis subtus fulvo-setosis, posticorum articulo basali quam ceteri conjuncti paullo breviori.

[Long. 6, lat. 3 lines.

This species is so remarkably like *C. amethystinus*, Fab., that I should regard it as a black-legged variety of that insect were it not for the bright fulvous vestiture of the underside of its tarsi and the puncturation (very obsolete, but quite traceable) of its elytral interstices. Its eyes are about as far apart from each

other as those of *C. variabilis*, Blessig. I do not think it can be *cœlestis*, Pasc., as the author of that species says that its eyes are approximate, and distinguishes it from *amethystinus* by *(inter alia)* its black prothorax.

C. OCULARIS, sp.nov.

Elongato-ovalis ; sat nitidus ; niger (exempli typici) prothorace viridi, elytris cupreo-purpureis certo adspectu latera versus viridi-tinctis ; capite crebre punctulato ; oculis subcontiguis ; sulcis ocularibus nullis ; antennis quam corporis dimidium vix brevioribus apicem versus haud incrassatis, articulo 3° quam 1^{us} 2^{us}que conjuncti vix longiori quam 4^{us} 5^{us}que conjuncti multo breviori, articulis apicalibus quam præcedentes haud brevioribus ; prothorace quam longiori dimidio (postice quam antice tribus partibus) latiori, leviter minus crebre minus subtiliter punctulato, antice bisinuatim leviter emarginato, a basi antrorsum arcuatim angustato, basi media sublobata, angulis obtusis ; elytrorum sculptura tota fere ut *C. cupripennis*, Blackb. ; prosterno medio carinato ; corpore subtus obsolete sparsim vix subtiliter punctulato ; femoribus anticis antice sparsim subtiliter punctulatis ; tarsis subtus fulvo-setosis, posticorum articulo basali ceteris conjunctis (unguibus exceptis) longitudine æquali. [Long. 7, lat. 3 lines.

An isolated species at once distinguishable from all others of the genus known to me by its eyes almost contiguous in front ; they are separated by a mere filament scarcely wider than the diameter of one of the granules of the eyes. In general form this insect resembles *C. longipennis*, Hope.

Queensland.

C. LEAI, sp.nov.

C. longipenni, Hope (ut supra descripto) affinis ; differt corpore subtus haud iridescenti, oculis quam antennarum articuli basalis longitudine paullo magis inter se remotis, antennis paullo brevioribus magis robustis ; prothorace quam longiori (et postice quam antice) fere duplo latiori, minus nitido, minus fortiter punctulato in parte basali minus distincte

antrorsum angustato ; elytris multo magis fortiter (quam *C. variabilis*, Blessig, fere magis fortiter) seriatim punctulatis, interstitiis vix subconvexis, tarsis subtus fulvo-setosis ; cetera ut *C. longipennis*. [Long. $8\frac{1}{2}$, lat. $4\frac{1}{5}$ lines.

This species presents one of the difficulties of tabulation which I have found it impossible to exclude in dealing with this genus. It belongs to the aggregate having the following characters in combination—ocular sulci absent, underside not iridescent, tarsal vestiture fulvous. This aggregate I have divided into two groups, in one of which the prothorax is gradually narrowed forward from the base, while in the other that segment is of equal width from the base to the middle. But the prothorax in this species does not seem quite in place in either of those groups, being when viewed from above very little (but still perceptibly) narrowed from the base to the middle and then much more strongly thence to the front. I have with some hesitation placed the insect in the former of the two groups ; if it were regarded as belonging to the second of them, it would stand beside *colossus*, Blackb., from which it is at once distinguished *inter alia* by the very much larger punctures of its elytral series. From the Western Australian *C. similis* it is separated *inter alia* by its very much more transverse prothorax, as well as by the larger punctures of its elytral series. It may be noted that there is a small obscure carina close to the inner margin of each eye, and that the anterior inner corners of the eyes are cut very obliquely, so that the space between the eyes narrows considerably hindward—characters which I do not find in any very nearly allied species.

N. S. Wales ; taken near Forest Reefs by Mr. Lea, of the Agricultural Department.

C. PALMERENSIS, sp.nov.

Sat latus ; minus nitidus : elytris (exempli typici) obscure cyaneis purpureo-tinctis ; oculis quam antennarum articuli basalis longitudine haud magis inter se remotis ; antennarum articulo 3° quam 1^{us} 2^{us}que conjuncti breviori quam 4^{us} 5^{us}que conjuncti sat multo breviori ; prothorace haud valde convexo,

sat sparsim punctulato ; elytrorum puncturis seriatis apicem versus magis magnis magis profundis, interstitiis vix convexis ; metasterno in medio subtiliter ad latera sat crasse punctulato ; abdomine sat subtiliter punctulato ; cetera ut *C. colossi*, Blackb. [Long. 10, lat. $5\frac{1}{2}$ lines.

A large species closely allied to *C. colossus*, Blackb., but of wider and more robust build and more obscurely coloured. In the unique specimen known to me of this insect the tarsal vestiture has been much matted, and I have not been able to restore it very satisfactorily. In its present condition the vestiture is of a pitchy-black tone in general, but in places is distinctly fulvous, and I have no doubt the tarsal vestiture in a fresh example is entirely fulvous. Subject to the differences specified in the diagnosis above, the diagnosis of *C. colossus* may be read as applying to this insect.

N. Queensland ; Palmer R. ; sent by C. French, Esq.

C. LATICOLLIS, sp.nov.

C. colosso affinis ; differt prothorace quam longiori (et postice quam antice) fere duplo latiori, in medio quam ad basin manifeste latiori ; elytrorum puncturis seriatis minus subtilibus. [Long. 8-$9\frac{1}{2}$, lat. $4\frac{1}{5}$-$4\frac{4}{5}$ lines.

This species is nearer to *colossus* than I like, but the differences seem to be of a kind that cannot but be specific ; indeed, the form of the prothorax in the present insect (of which I have seen a good many examples) is alone sufficient to form a distinction from every other *Chalcopterus* that I have seen, that segment being at its widest at the middle and thence slightly narrowed to the base.

Queensland.

C. GRACILIOR, sp.nov.

C. Bovilli valde affinis ; corpore supra læte cyaneo vel violaceo (capite obscuriori) certo adspectu viridi-tincto ; corpore subtus splendide metallico-iridescenti ; antennis (♀ ?) quam corporis dimidium paullo breviori ; prothorace magis sub-

tiliter magis crebre punctulato; elytrorum interstitiis crebre perspicue punctulatis; cetera ut *C. Bovilli*.

[Long. 5, lat. $2\frac{1}{5}$ lines.

The diagnosis of *C. Bovilli* may be read as applying to this species except in respect of the characters mentioned above. It is possible that the unique type of *C. Bovilli* may be a black var. of a species that is ordinarily brightly coloured. If that be the case, and if I am right in thinking that that type is a male and that I have not seen a male of *C. gracilior* (in which case both the antennal differences and those in colour might be non-specific), the two species are excessively closely allied; but even so, I think them to be certainly distinct on account of the very marked difference in their sculpture, the puncturation of the prothorax in *gracilior* being very considerably finer and closer than in *Bovilli*, while the interstices of the elytral striæ in the former are very distinctly punctured and in the latter all but impunctate, the punctures being scarcely discernible even with a powerful Coddington lens. In my tabulation this insect falls in a small very polymorphous group of species associated by the unusual and conspicuous (but not really important) character of the undersurface being iridescent and of metallic colours.

N. Queensland; Palmer R.; sent by Mr. French.

C. IRIDICOLOR, Blessig.

The Victorian insect, to which I somewhat confidently apply this name, presents the following characters in combination:—ocular sulci at their maximum development (very wide, deep, and long,—not foveiform), tarsal vestiture black or nearly so, interval between the eyes (including the sulci) just about equal to the length of the basal joint of the antennæ, size at most moderate. These characters are shared with several other forms, which I believe to be good species, but the group of *Chalcopteri*, consisting of the species thus distinguished presents to me much greater difficulties than any others of the genus; for on the one hand it contains some most variable species, and on the other hand it

seems likely (yet incapable of being definitely established by me) that several already-named *Chalcopteri* appertain to it.

Among the specimens presenting the combination of characters mentioned above, I distinguish *C. iridicolor* by the following combination:—ocular sulci of more perfectly even form, and therefore more entirely devoid of any deepening in front suggestive of a fovea, general form robust and elongate oval (not very parallel), puncturation of prothorax very sparse, elytra usually marked with rather well-defined longitudinal stripes of green, golden and purple, seriate punctures of elytra very unequal in size (some of the punctures in the series being much larger than others), seriate puncturation in general rather coarse and not close (evidently, but not very much less fine than in *C. variabilis*, Blessig), interstices scarcely quite flat (at any rate in the male), very finely and not closely (especially in the male) punctured.

Closely allied to the above is a species which seems to be very variable and very widely distributed, and common in N. S. Wales, and which I take to be *C. vinosus*, Pasc. I feel some doubt as to whether it may not eventually prove to be a form of *C. iridicolor*. In what I take to be its typical form, this insect is smaller, narrower and more parallel than *iridicolor*, its elytra are not striped with various colours, but the whole upper surface appears to be of a uniform green or reddish-coppery colour, according to the point of view. The ocular sulci have just the least indication of an anterior dilatation (a very slight character, however), the prothorax is a little more closely punctured, the seriate punctures of the elytra are a little finer, the interstices are more absolutely flat and much more strongly punctured (the sculpture of the elytra is extremely like that of *variabilis*, Blessig, but the seriate punctures are a little less close, and the interstitial punctures are a little stronger). The tarsal vestiture is not quite so black, some piceous or even reddish hairs being mingled among the black ones.

If the form just described were the only one of this insect, it would appear to be quite distinct from *C. iridicolor*, but either it varies to an extraordinary extent, or there are several very closely allied species between which I have failed to find any reliable

distinctions, for among upwards of a hundred specimens which I have examined, I find some in which the seriate punctures of the elytra are quite as large as in *iridicolor* (with intermediate shades of difference), and a few in which the colours approximate a little to *iridicolor*, while in a few (otherwise indistinguishable) the interstices are almost impunctate, and in some (all, I think, from the northern parts of N. S. Wales) the red hairs in the tarsal vestiture are quite as plentiful as the black ones. In all probability *Amarygmus resplendens*, Boisd., is one of these varieties.

These variations, if they be mere variations, are especially remarkable because in other species of *Chalcopterus* the sculpture seems very constant, scarcely varying for example in *C. cupripennis*, Blackb., (of which I have examined large numbers), except in the slight sexual variation that I have referred to in describing that insect.

C. VIRIDICOLLIS, W. S. Macl.

This is an extremely distinct species, not very near any other that I have seen. In a natural arrangement of the *Chalcopteri* it would probably stand not far from *lætus*, Blackb., but the exigencies of classification require me to place it at the other end of the genus on account of its having perfectly distinct (though not very greatly developed) ocular sulci. It is an oval, somewhat elongate, moderately convex species of moderate size (long. 6, lat. $3\frac{1}{5}$ lines). The type is coloured as follows:—head and prothorax dark rich green, elytra coppery or golden or purple, according to the point of view, undersurface iridescent (blue, green and purple), legs and antennæ black. The antennæ (♀?) are considerably shorter than half the length of the body, and are not much thickened towards the apex, joints 8-10 not much shorter than the joints immediately preceding them. The clypeus and labrum are closely punctured, the rest of the head very sparsely. The space between the eyes is moderately wide (about $\frac{3}{4}$ of the width of the same in *C. cupripennis*, Blackb.), and in the type is of peculiar form, its front and hind part resembling two plates applied to each other almost at a right angle (of course

without any suture), so that the vertex almost continues the plane of the prothorax, and then suddenly becomes nearly vertical. The prothorax is not much more than half again as wide as its length, the front margin not quite $\frac{3}{5}$ the width of the base, the sides feebly arched, the surface punctured finely and sparsely. The elytra bear very even and distinct rows of punctures, the punctures moderately large (somewhat larger and less close than those in the series on the elytra of *C. variabilis*, Blessig), and the interstices are nitid and impunctate. The underside is almost devoid of sculpture. The vestiture of the undersurface of the tarsi is black, the basal joint of the hind tarsi being very little longer than the apical joint. The exact habitat is uncertain, the unique type being ticketed "New Holland." The ocular sulci being not very strong, it is perhaps well to note that if it were placed among the species not having distinct ocular sulci in my tabulation it would have to stand beside *C. iridiventris*, from which the very much coarser seriate puncturation of its elytra at once distinguishes it.

C. EREMITA, Blackb. (Scientific Results of the Elder Expedn. Trans. Roy. Soc. S.A. xvi. p. 44).

This species, it should be noted, bears much resemblance to *C. difficilis*, Blackb., but may be readily distinguished by, *inter alia*, its better defined and longer ocular sulci, and the seriate punctures of its elytra becoming very feeble near the apex, whereas in *difficilis* the corresponding punctures extend quite to the apex without any enfeeblement.

C. SEGNIS, sp.nov.

Late ovalis, sat nitidus; niger elytris viridibus; capite subopaco, subobsolete punctulato; oculis quam antennarum articuli 3^{i} longitudine paullo magis inter se remotis; sulcis ocularibus subfoveiformibus; antennis quam corporis dimidium sat brevioribus (♀ prothoracis basin parum superantibus), apicem versus vix incrassatis, articulo 3° quam 1^{us} 2^{us}que conjuncti vix longiori quam 4^{us} 5^{us}que conjuncti sat breviori, articulis

apicalibus quam præcedentes vix brevioribus; prothorace quam longiori (et postice quam antice) plus quam duplo latiori, subobsolete punctulato, subopaco, antice sinuatim emarginato, a basi antrorsum (superne viso) arcuatim angustato basi media sat late sublobata, angulis obtusis; elytris a basi ad apicem (prope basin minus distincte) subtiliter (fere ut *C. cupripennis)* seriatim-punctulatis, interstitiis planis sat perspicue nec crebre punctulatis; prosterno medio antice carinato; metasterno medio et abdomine sparsim manifeste punctulatis; femoribus anticis antice minus subtiliter punctulatis; tarsis subtus nigro-setosis, posticorum articulo basali quam ceteri conjuncti paullo breviori.

[Long. 6-7, lat. $3\frac{3}{5}$-4 lines.

The two examples examined are both quite black except the elytra, which are of dark but very decided green colour, without iridescence other than a slightly golden tone in certain lights. The general form is that of *semiticus*, *simius*, and *cupripennis* (though the last named is not quite so *widely* oval), from which it may be separated by the following characters *inter alia*—from *semiticus* by its widely separated eyes, from *simius* by the much more defined seriate puncturation of its elytra, from *simius* and *cupripennis* by its well-defined ocular sulci.

N. Queensland; sent by Mr. French.

C. LÆVICOLLIS, Blessig.

This is one of the few species of *Chalcopterus* that I have ascertained to be widely distributed in Australia. It does not appear to be very common. I do not feel much doubt of its being the insect that Hope described as *Cnodulon cyanipennis*, Boisduval as *Amarygmus columbinus*, and Pascoe as *Amarygmus cœlestis*. If those identifications are correct, Boisduval's is the name that will have to be adopted; but as, among the names in question, Blessig's is the only one connected with a description and figure good enough to justify anything like certainty, it is no doubt better to use that name for the present, and hope that someone having access to the types of the other authors mentioned

above will examine them and report whether they are likely to be identical with *lævicollis*. It is an extremely isolated species, and can be at once distinguished from all the other *Chalcopteri* that I have seen by the following characters in combination—ocular sulci well defined, tarsal vestiture fulvous, legs dark, prothorax subtrapezoidal and impunctate. I may note that I have seen two examples from Narrabri, N.S.W., sent by Mr. Masters for examination, which differ from typical specimens of *C. lævicollis* only in being larger (long. 7 lines) and having green elytra; it is just possible that this form may be that which Boisduval named *columbinus*, and I think it a mere variety of *lævicollis*, Blessig.

C. PICIPES, Macl.

Mr. Skuse has had the kindness to examine the type of this insect for me, and reports that the only difference he can find between it and *rufipes*, Macl., is in the elytra of the former being of a greenish colour.

The following are the species of *Chalcopterus* described since the publication of Mr. Masters' Catalogue of Coleoptera and before the date of this Revision.

C. LONGIUSCULUS, Blackb., P.L.S.N.S.W. 1888, p. 1435.

C. EREMITA, Blackb., Trans. Roy. Soc. S.A. Vol. xvi. p. 44.

C. MEYRICKI, Blackb., loc. cit. p. 45.

AMARYGMUS.

The name *Amarygmus* has been limited by M. Blessig to those species which present the characters that I have enumerated in the first part of this memoir as distinctive of *Chalcopterus*, with the exception that their mandibles are bifid at the apex. Notwithstanding M. Blessig's work, however, subsequent authors have ignored the distinction and attributed to *Amarygmus* the species that M. Blessig would have called *Chalcopteri* without even referring to the structure of the mandibles. It is therefore a matter of some difficulty in revising the *Amarygmides*

to apportion the species confidently between the two genera, except in those instances where it is possible to identify them on other characters. Fortunately there are fairly marked differences of other kinds distinguishing *Amarygmus* from *Chalcopterus*, so that it is practicable in the case of most of the described species to make at least a very good guess from the descriptions to which genus they belong. The species with truncate mandibles are never (judging from many hundreds of specimens that I have examined) of very small size, whereas those with bifid mandibles include many such and none very large; the vestiture of the tarsi in the species with bifid mandibles is always of bright fulvous colour, whereas the vestiture in those with truncate mandibles is usually black; in the former the clypeus is, with scarcely an exception, much less reflexed above the base of the antennæ than in the latter; in the former there are almost never well-defined ocular sulci, and the colour of the legs is much more variable, not a few species having them entirely rufous and many having black legs with testaceous or rufous tarsi, while in the latter the ocular sulci are often very strongly developed, and with one or two exceptions (in which the whole legs, or the femora only, are rufous) the legs are entirely black or pitchy-black. The following species I can attribute definitely to *Amarygmus* as the result of the examination of well authenticated specimens, viz.—*convexiusculus*, Macl.; *convexus*, Pasc.; *exilis*, Pasc.; *foveolatus*, Macl.; *striatus*, Macl.; *torridus*, Pasc.; *tyrrhenus*, Pasc.; *variolaris*, Pasc.; and I have no doubt, judging from their general characters, that the following are also *Amarygmi*, viz.—*cupido*, Pasc.; *ellipsoides*, Pasc.; *indagaceus*, Pasc.; *maurulus*, Pasc.; *minutus*, Pasc.; *picicornis*, Hope; *pusillus*, Pasc.; *semissus*, Pasc.; *tarsalis*, Pasc.; and *tristis*, Fab. Of these latter I have identified more or less confidently—*cupido*, Pasc.; *indagaceus*, Pasc.; *minutus*, Pasc.; *semissus*, Pasc.; *tarsalis*, Pasc.; and *tristis*, Fab. There are thus four species that I have been unable to identify and am obliged to pass over in silence, viz.—*ellipsoides*, Pasc.; *maurulus*, Pasc.; *pusillus*, Pasc.; and *picicornis*, Hope. I do not think that I have seen any of those four, but there is a possibility that I may have

re-described some of them, as their description is in no case very full or detailed.

The known *Amarygmi* are much less numerous than the *Chalcopteri* and the species are much rarer in collections. It is noteworthy that I have seen only a single species from Western Australia or Tasmania, and only three species from South Australia and Victoria, two of which are represented by unique types.

A. Prothorax not strigose.
B. Elytral sculpture distinctly longitudinal.
C. Elytral sculpture consisting of punctulate striæ or rows of punctures.
D. Prothorax or interstices of elytra, or both, distinctly punctulate.
E. Form more or less elongate.
F. Tibiæ of dark colour.
G. Elytra uniformly black or æneous, very nitid, and strongly striate.
H. Size 5 lines or more.
I. The punctures in the elytral striæ very uneven in size and distance apart..... *uniformis*, Blackb.
II. The punctures in the elytral striæ very even, a little finer hindward..... *alienus*, Blackb.
HH. Size 4 lines or less..... [*semissus*, Pasc.]
GG. Elytra not as in G.
H. Head between the eyes more or less nitid and very distinctly punctulate.
I. Sides of head extremely feebly reflexed above the base of the antennæ.

J. Elytra not or scarcely striate

K. Metasternum (at least on sides) not or scarcely punctulate.

L. Elytra variegated with several metallic colours

M. 3rd joint of antennæ notably longer than 5th.

N. Antennæ black or pitchy-black.

O. Sides of prothorax considerably rounded..... *æger*, Blackb.

OO. Sides of prothorax nearly straight... *suavis*, Blackb.

NN. Antennæ rufous or testaceous.

O. Abdomen very strongly punctured..... *ruficornis*, Blackb.

OO. Abdomen very feebly punctured..... [*cupido*, Pasc.]

MM. 3rd joint of antennæ scarcely longer than 5th..... *exilis*, Pasc.

LL. Elytra of a uniform deep blue or violet colour..... *indagaceus*, Pasc.

KK. The whole metasternum (except the episterna) coarsely punctured.... *pectoralis*, Blackb.

JJ. Elytra distinctly striate from base to apex..... *Frenchi*, Blackb.

II. Sides of head much more reflexed above the base of the antennæ..... *tyrrhenus*, Pasc.

HH. Head between the eyes more opaque and scarcely punctulate.

I. Elytra substriate, seriate punctures fine..... [*tristis*, Fab.]

II. Elytra not striate, seriate punctures subfoveiform.. *porosus*, Blackb.

FF. Tibiæ clear rufous.

G. Prothorax finely punctured and very nitid.

H. Size moderate — 3 lines or more..... *stolidus*, Blackb.

HH. Size very small..... *lilliputanus*, Blackb.

GG. Prothoracic punctures strong and close, tending to be longitudinally confluent in places..... *rutilipes*, Blackb.

EE. Form very widely oval (like *convexus* and *tardus*)..... *torridus*, Pasc.

DD. Prothorax and interstices of elytra both impunctate or nearly so.

E. Femora and tibiæ dark.

F. Form narrow and subparallel.... *tarsalis*, Pasc.

FF. Form oval, and much wider.... *foveolatus* Macl.

EE. Femora and tibiæ clear rufous.

F. Form narrow..... *convexiusculus*, Macl.

FF. Form very widely and roundly oval..... *convexus*, Pasc.

CC. Elytral sculpture consists of striæ which are crenulate rather than punctulate and nearly simple near apex.

D. Legs dark.

E. Punctures of the striæ closely placed.

F. Interstices of elytral striæ not (or scarcely) punctulate.

G. Interstices of elytral striæ not (or very little) convex near apex.

H. Elytra black..... *striatus*, Macl.

HH. Elytra blue..... *queenslandicus*, Blackb.

GG. Interstices quite sharply convex near apex.

H. Curve of elytral outline (viewed from the side) very strong, interstices cariniform..... *pinguis*, Blackb.

HH. Curve of elytral outline (viewed from the side) much feebler, interstices not cariniform..... *perplexus*, Blackb.

FF. Interstices very distinctly punctulate..... *diaperioides*, Blackb.

EE. Punctures of the striæ very distant from each other..... *cuprea*, Pasc.
[*Eurypera.*]

DD. Legs clear rufous..... [*minutus*, Pasc.]

CCC. Elytral sculpture consisting of large purple foveæ.

D. Size small (long. $3\frac{1}{2}$ lines)..... *lindensis*, Blackb.

DD. Size much larger.

E. Form widely oval..... *tardus*, Blackb.

EE. Form narrow and very parallel *rimosus*, Blackb.

BB. Elytral sculpture not running in longitudinal rows..... *variolaris*, Pasc.

AA. Prothorax densely strigose..... *rugaticollis*, Blackb.

A. ALIENUS, sp.nov.

Ovalis; sat nitidus; subtus niger supra totus viridi-æneus haud iridescens, antennis pedibusque plus minusve piceis vel ferrugineis; capite crebre sat subtiliter punctulato; oculis quam antennarum articuli basalis longitudine vix minus inter se remotis; sulcis ocularibus nullis; antennis sat elongatis, articulo 3° quam 1^{us} 2^{us}que conjuncti vix longiori quam 4^{us} 5^{us}que parum breviori, articulo 8° quam 7^{us} paullo breviori (ceteris exempli typici carentibus); prothorace quam longiori fere duplo (postice quam antice fere tribus partibus) latiori, crebre obsolete punctulato, antice sat fortiter emarginato, a basi (superne viso) antrorsum arcuatim angustato, basi media sat anguste sublobata, angulis anticis sat productis minus obtusis; elytris sat æqualiter striatis, striis fortiter punctulatis, puncturis in seriebus sat crebre positis a serierum lateralium parte mediana antrorsum retrorsum et suturam versus gradatim magis subtilibus, interstitiis sat convexis sat crebre obsolete (vix perspicue) punctulatis; prosterno medio sat profunde sulcato; metasterno medio subtiliter punctulato et transversim rugato, episternis sat opacis vix punctulatis; abdomine subtiliter punctulato et sat fortiter rugato; femoribus anticis antice leviter punctulatis; tarsis subtus fulvo-setosis, posticorum articulo basali quam apicalis vix longiori.

[Long. 6, lat. $3\frac{1}{2}$ lines.

Much like *A. uniformis*, Blackb., but with very different elytral puncturation. The typical example appears to be a male; its

front tibiæ are somewhat arched and decidedly thickened near the apex; its hind tibiæ are rather strongly flexuous.

Victoria; Alpine district; sent to me by Mr. French.

A. ÆGER, sp. nov.

Anguste elongatus; sat parallelus; modice nitidus; niger, capite prothorace elytrisque (minus læte) versicoloribus, æneis certo adspectu viridi- et purpureo-tinctis (exemplorum plurimorum sutura obscure purpurea); capite crebre æqualiter sat subtiliter punctulato; clypeo minus elongato, a fronte sulco transverso lato profundo diviso supra antennarum basin parum reflexo; oculis quam antennarum articuli basalis longitudine sat magis inter se remotis; sulcis ocularibus nullis; antennis quam corporis dimidium sat brevioribus, apicem versus vix incrassatis, articulo 3° quam 5^us^ multo longiori, articulis apicalibus quam præcedentes haud brevioribus; prothorace quam longiori fere duabus partibus (postice quam antice plus quam tertia parte) latiori, crebre distincte punctulato, antice sinuatim emarginato, a basi antrorsum subarcuatim angustato, basi media sublobata, angulis anticis obtusis posticis subrectis; elytris substriatis, sat profunde nec grosse seriatim punctulatis, puncturis in seriebus (sat æqualiter) crebris, interstitiis planis subtiliter sat crebre punctulatis; prosterno medio sulcato; corpore subtus vix distincte punctulato; femoribus anticis antice vix distincte punctulatis; tarsis subtus fulvo-setosis, posticorum articulo basali quam ceteri conjuncti sublongiori.

[Long. $4\frac{1}{2}$-6, lat. $1\frac{4}{5}$-$2\frac{1}{2}$ lines.

A narrow elongate species with elytral puncturation much resembling that of *Chalcopterus variabilis*, Blessig, the interval between the eyes very little less wide than in *C. cupripennis*, the front tibiæ of the male arched and having their apical portion moderately dilated. It is I think the commonest and most widely distributed species of the genus. The striation of the elytra is very indistinct, in some examples scarcely traceable.

South Australia, Victoria, and N. S. Wales.

A. SUAVIS, sp.nov.

Elongato-ovalis; nitidus; niger, elytris versicoloribus (purpureis, viridi- cyaneo- et aureo-tinctis), antennarum apice tarsisque obscure testaceis; antennis oculis et capite toto fere ut *A. ægri* sed clypeo a fronte sutura usitata diviso; prothorace quam longiori tribus partibus (postice quam antice duabus partibus) latiori, distincte vix crebre punctulato, antice sinuatim emarginato, lateribus fere rectis, basi media sublobata, angulis anticis subprominulis posticis obtusis; elytris seriatim punctulatis, puncturis in seriebus sat magnis nec inter se æqualibus, interstitiis sat planis minus perspicue (nisi sub lente forti) punctulatis; prosterno (exempli typici) medio planato; metasterno medio et abdominis parte antica-mediana puncturis sparsis minus subtilibus impressis; femoribus anticis antice vix manifeste punctulatis; tarsis subtus fulvo-setosis, posticorum articulo basali quam ceteri conjuncti subbreviori. [Long. $3\frac{1}{2}$, lat. $1\frac{1}{2}$ lines.

This species is not very close to any other that I have seen; perhaps it comes nearest to *A. cupido*, Pasc., but differs from it by its darker antennæ (with only the apical joints a little paler) and its colour, *cupido* (according to description and an example in my collection which I refer to it) being a much more beautifully coloured species with light blue iridescence, and (if my identification is correct) more finely punctured prothorax and elytra. In the present species the prothoracic puncturation resembles that of *Chalcopterus cupripennis* but is a little closer, and the seriate punctures of the elytra are of somewhat unequal size (the larger ones being distinctly larger than those of *Chalcopterus variabilis*, Blessig) and not very close,—the intervals between puncture and puncture being in places not much less than the diameter of a puncture; the largest punctures are near the front of the dorsal series.

N. S. Wales; taken near Sydney by Mr. Lea.

A. RUFICORNIS, sp.nov.

Elongato-ovalis; nitidus; niger, elytris versicoloribus (purpureis, cyaneo- et aureo-tinctis), antennis tarsisque testaceis; antennis (colore excepto) oculis et capite toto fere ut *A. ægri* sed clypeo a fronte sutura usitata diviso et capite inter oculos sat sparsim punctulato; prothorace fere ut *A. suavis* sed minus transverso (quam longiori, et postice quam antice, duabus partibus latiori) et paullo magis subtiliter punctulatis; elytris fere ut *A. suavis*, sed puncturis seriatis magis subtilibus (fere ut *Chalcopteri variabilis*, Blessig); corpore subtus et pedibus fere ut *A. suavis* sed metasterno et abdominis parte antica-mediana fortiter crebre punctulatis.

[Long. $2\frac{4}{5}$-3, lat. $1\frac{2}{5}$ lines.

The diminutive size of this insect distinguishes it from most of its congeners; its most distinctive character however is the puncturation of its undersurface, which on the middle of the metasternum and the basal segment of the abdomen is distinctly coarse and close.

N. S. Wales; taken in the Richmond R. district by Mr. Lea.

A. PECTORALIS, sp.nov.

Elongato-ovalis; sat nitidus; supra obscure cyaneus vel violaceus, subtus niger, pedibus piceo-nigris, tarsis paullo dilutioribus; antennis oculis et capite toto fere ut *A. ægri* sed clypeo a fronte sulco minus profundo diviso; prothorace quam longiori duplo (postice quam antice fere duabus partibus) latiori, subtiliter sat crebre punctulato, antice sinuatim leviter emarginato, a basi antrorsum arcuatim angustato, basi media manifeste lobata, angulis obtusis (anticis fere subacuminatis); elytris seriatim punctulatis, puncturis in seriebus sat magnis nec inter se æqualibus (fere ut *A. suavis*), interstitiis sparsim subtilissime (vix manifeste) punctulatis; prosterno medio sulcato; metasterno toto grosse sparsim (episternis subtiliter exceptis) punctulato; abdominis segmento basali grosse (ceteris subtiliter) punctulato; femoribus

anticis antice vix manifeste punctulatis; tarsis subtus fulvo-setosis, posticorum articulo basali ceteris conjunctis longitudine sat æquali. [Long. $4\frac{2}{3}$, lat. $2\frac{1}{3}$ lines.

This species bears a good deal of resemblance to *A. suavis* but is considerably larger, with the prothorax and elytral interstices more finely punctured; it differs from all its allies known to me in having the whole of its metasternum (except the episterna) sparsely pitted with coarse deep puncturation.

N. S. Wales; sent to me by Mr. Masters.

A. Frenchi, sp.nov.

Ovalis; sat nitidus; supra læte versicolor (purpureo- cyaneo- et viridi-variegatus), corpore subtus nigro, antennis versus basin (exempli typici parte apicali carente) pedibusque obscure brunneo-piceis; capite crebre sat subtiliter punctulato supra antennarum basin parum reflexo; oculis quam antennarum articuli 2^{i} longitudine vix magis inter se remotis; sulcis ocularibus nullis; prothorace quam longiori duplo (postice quam antice fere duplo) latiori, crebre subtiliter punctulato, a basi antrorsum arcuatim angustato, antice emarginato, basi media sublobata, angulis obtusis; elytris distincte subtiliter striatis, striis crebre subtilius seriatim punctulatis, interstitiis leviter convexis crebre subtiliter punctulatis; prosterno sat lato in medio depresso; metasterno sparsim subtiliter punctulato et oblique rugato; abdomine vix perspicue punctulato, sat fortiter longitudinaliter strigato; femoribus anticis antice vix manifeste punctulatis; tarsis subtus fulvo-setosis.

[Long. $5\frac{1}{2}$, lat. $2\frac{4}{5}$ lines.

The unique type of this insect is unfortunately not in good condition, having lost its hind tarsi and part of its antennæ, but it is so extremely distinct a species that I am reluctant to omit it from this memoir. It is the only *Amarygmus* known to me having elytra distinctly punctulate-striate in the ordinary sense of the term, the other striate species having their striæ crenulate on the sides rather than distinctly punctured. In this species the striæ though fine are well defined and become deeper towards the apex

and are set with fine close punctures much like the seriate punctures of *Chalcopterus cupripennis* but a little more crowded and more deeply impressed; the interstices of the striæ are distinctly convex especially near the apex. The anterior coxæ are more widely separated and the eyes much more contiguous than in most *Amarygmi*. In general appearance this insect is much more like a *Chalcopterus* than an *Amarygmus*.

Victoria; presented to me by Mr. French.

A. POROSUS, sp.nov.

Ovalis; minus angustus; subnitidus; niger, elytris obscure viridibus, antennis tarsisque rufo-piceis; capite antice crebre subtiliter postice minus distincte punctulato supra antennarum basin leviter reflexo; oculis quam antennarum articuli basalis longitudine paullo minus inter se remotis; sulcis ocularibus haud plane carentibus; antennis quam corporis dimidium vix brevioribus, apicem versus leviter incrassatis, articulo 3° quam 4^{us} 5^{us}que conjuncti vix breviori, articulis apicalibus quam præcedentes vix brevioribus; prothorace quam longiori (et postice quam antice) duplo latiori, distincte sat crebre punctulato, antice sinuatim emarginato, a basi antrorsum arcuatim angustato, basi media sublobata, angulis anticis subacutis posticis fere rectis; elytris seriatim foveolatis, interstitiis planis subtiliter punctulatis; prosterno medio sulcato; corpore subtus vix manifeste punctulato, abdomine subreticulatim strigato; femoribus anticis antice sparsim vix perspicue punctulatis; tarsis subtus fulvo-setosis, posticorum articulo basali quam ceteri conjuncti paullo breviori. [Long. $5\frac{3}{4}$, lat. $3\frac{1}{5}$ lines.

This species is allied to *A. torridus*, Pasc., *A. tardus*, Blackb., &c., in respect of its sculpture but is a much narrower insect than either of those two; it differs from *A. tardus* also in the seriate foveæ of the elytra not being coloured differently from the general surface. The foveæ of the series are somewhat uniform in size, but those in the middle part of the series near the lateral margins are a little larger than the rest. In a series (say the 4th from

the suture exclusive of the short scutellar series) there are about twenty foveæ between the base and the part of the elytra where the middle series cease or become mixed with other series; the intervals between fovea and fovea in the series are much less than the diameter of the foveæ and the interstices between the series are about as wide as the diameter of a fovea. The sculpture of the elytra is much like that of *Chalcopterus catenulatus*, Blackb.

N. Queensland; sent by C. French, Esq.

A. STOLIDUS, sp.nov.

Ovalis; nitidus; niger, corpore subtus rufescenti, antennis pedibusque rufo-testaceis; antennis (colore excepto) oculis et capite toto fere ut *A. ægri* sed clypeo a fronte sutura minus sulciformi diviso, oculis paullo magis remotis, antennarum articulo 3° paullo minus elongato, prothorace (colore nitoreque exceptis) fere ut *A. ægri* sed paullo (nec multo) magis transverso, angulis anticis paullo minus posticis paullo magis obtusis; elytris subgrosse seriatim punctulatis, puncturis in seriebus irregulariter (hic magis, illic minus, crebre) dispositis; interstitiis subtilissime punctulatis inæqualiter convexis; prosterno medio leviter convexo; corpore subtus subtilissime punctulato; femoribus anticis antice subtilissime punctulatis; tarsorum posticorum articulo basali quam ceteri conjuncti sublongiori. [Long. $3\frac{1}{2}$, lat. $1\frac{3}{5}$ lines.

A very nitid species of black colour, with the legs and antennæ clear rufous and the undersurface a little inclining to a reddish tone. The elytra have an uneven appearance owing to the punctures in the series (which are evidently larger than those of *A. æger* and considerably less coarse than those of *A. porosus)* being less closely placed in some than in other parts, and the interstices being here and there very evidently convex. There is no real striation, although in places the convexity of the interstices gives a slight appearance of it. The front tibiæ in the male are strongly arched and strongly dilated at the apex.

N. S. Wales; Sydney; Mr. Lea, &c.

A. LILLIPUTANUS, sp.nov.

Ovalis ; nitidus ; niger, corpore subtus rufescenti, antennis pedibusque rufo-testaceis ; capite crebre æqualiter sat subtiliter punctulato supra antennarum basin parum reflexo ; oculis quam antennarum articuli basalis longitudine vix magis inter se remotis ; sulcis ocularibus nullis ; antennis quam corporis dimidium sat brevioribus, apicem versus manifeste incrassatis, articulo 3° quam 5^{us} multo longiori ; prothorace quam longiori duplo (postice quam antice duabus partibus) latiori, crebre subtiliter punctulato, antice sinuatim fere truncato, a basi antrorsum arcuatim angustato, basi media sublobata, angulis obtusis ; elytris sat subtiliter seriatim punctulatis, puncturis in seriebus vix crebre positis, interstitiis planis perspicue punctulatis ; prosterno medio subplanato ; abdomine subfortiter nec crebre punctulato ; femoribus anticis antice vix perspicue punctulatis ; tarsorum posticorum articulo basali ceteris conjunctis longitudine æquali. [Long. 2, lat. 1 line.

Its very small size separates this species from all previously described except *A. minutus*, Pasc., the elytra of which are said to be strongly striate-punctate, those of the present insect not being distinctly striate at all. It is a good deal like *A. stolidus* in general appearance, but differs *inter alia* in its eyes being much less widely separated from each other, the much finer punctures of its elytral series, and the comparatively strong and sparse puncturation of its abdomen. The last of these characters distinguishes it from nearly all its congeners. The specimens I have seen appear to be females ; probably the male has its front tibiæ arched and at the apex dilated.

Queensland ; Wide Bay ; sent by Mr. Masters.

A. RUTILIPES, sp.nov.

Ovalis ; sat elongatus ; modice nitidus ; corpore subtus capite prothoraceque plus minus rufescentibus, elytris piceo-nigris, antennis pedibusque testaceo-rufis ; capite prothoraceque

crebre sat fortiter punctulatis; illo supra antennarum basin modice reflexo; oculis quam antennarum articuli basalis longitudine paullo magis inter se remotis; sulcis ocularibus nullis; antennis quam corporis dimidium vix longioribus, apicem versus haud incrassatis, articulo 3° quam 5^{us} manifeste longiori; prothorace quam longiori (et postice quam antice) fere duplo latiori, antice sinuatim leviter emarginato, a basi antrorsum arcuatim angustato, basi media manifeste lobata, angulis anticis acutis posticis obtusis; elytris fortiter punctulato-striatis, interstitiis sat convexis manifeste punctulatis; prosterno medio antice concavo; metasterno medio manifeste nec crebre nec fortiter, abdomine antice magis fortiter magis crebre, punctulatis; femoribus anticis antice manifeste punctulatis; tarsorum posticorum articulo basali quam ceteri conjuncti paullo breviori.

[Long. 3, lat. $1\frac{2}{5}$ lines.

This species seems to be near *A. minutus*, Pasc., which however is described as much smaller (long. $2\frac{1}{4}$ lines) and as having its prothorax "finely" punctured; the prothorax of the present insect is more strongly sculptured than in almost any other *Amarygmus* that I have seen.

A. QUEENSLANDICUS, sp.nov.

Ovalis; supra minus, subtus magis, nitidus; niger, elytris obscure cyaneis, tarsis rufis; capite sat crebre sat subtiliter punctulato, supra antennarum basin modice reflexo; oculis quam antennarum articuli basalis longitudine vix magis inter se remotis; sulcis ocularibus nullis; antennis quam corporis dimidium haud multo brevioribus, apicem versus parum incrassatis, articulo 3° quam 5^{us} multo longiori; prothorace quam longiori tribus partibus (postice quam antice circiter duabus partibus) latiori, perspicue sat crebre punctulato, antice emarginato, a basi antrorsum arcuatim angustato, basi media sublobata, angulis bene determinatis obtusis (anticis subacuminatis); elytris fortiter striatis, striis punctulatis (vel potius lateraliter crenulatis), interstitiis sat convexis (postice

subcarinuliformibus) vix manifeste punctulatis; prosterno medio sulcato; corpore subtus vix perspicue punctulato; femoribus anticis antice subtiliter punctulatis; tarsorum posticorum articulo basali ceteris conjunctis longitudine æquali. [Long. $3\frac{3}{5}$, lat. $1\frac{4}{5}$ lines.

Extremely like *A. striatus*, Macl., but differing from it by its smaller size, the dark blue colour of its elytra, its narrower form, slightly narrower interval between the eyes, more distinct puncturation of the prothorax, greater convexity of the elytral interstices behind, and decidedly more nitid appearance, especially on the undersurface which is quite brightly polished.

N. Queensland; sent by C. French, Esq.

A. PINGUIS, sp.nov.

A. queenslandico valde affinis; sat breviter ovalis (corporis dimidio quam antennæ sat breviori); oculis quam antennarum articuli basalis longitudine sat multo magis inter se remotis; elytrorum inter strias interstitiis postice fortiter sat anguste convexis (sat fortiter carinatis); cetera ut *A. queenslandici*. [Long. $2\frac{4}{5}$, lat. $1\frac{3}{5}$ lines.

This species is another close ally of *A. striatus*, Macl., and still closer of *A. queenslandicus*. It is, however, clearly distinct from both, being much smaller, with outline nearer that of *striatus* but with the sides decidedly more rounded. In *A. striatus* the elytral interstices are of almost even convexity throughout (only *narrowing* somewhat near the apex), but in *A. pinguis* their convexity becomes greater hindward so that in front they are gently convex and somewhat wide, and behind change into a keel-like and much narrower form.

N. Queensland; Endeavour R.; sent by Mr. Masters.

A. PERPLEXUS, sp.nov.

A. queenslandico valde affinis; sat breviter ovalis (corporis dimidio antennis longitudine sat æquali); elytris nigris; sulcis ocularibus sat manifestis; prothoracis lateribus magis rotundatis; elytrorum interstitiis minus convexis. [Long. 3, lat. $1\frac{4}{5}$ lines.

Another member of the group of *A. striatus*, Macl., [consisting of species distinguished by the elytra having very strong striæ which are only feebly punctured, or rather laterally crenulate (the crenulations obsolete near the apex)]. It is very much smaller than *striatus*, and smaller and of much more widely oval form than *queenslandicus*. From *pinguis* it differs by the interstices of its elytra being much less convex, and from *diaperioides*, Blackb., (P.L.S.N.S.W. 1888, p. 1435), by the interstices not being punctulate. From all the abovementioned species it differs by the presence of distinctly traceable ocular sulci.

N. Territory of S. Australia; sent by G. Masters, Esq.

A. RIMOSUS, sp.nov.

Elongatus; sat parallelus, sat nitidus; niger, elytris orichalceis purpureo-foveatis, antennis pedibusque rufis; capite sat subtiliter nec crebre punctulato, supra antennarum basin parum reflexo; oculis quam antennarum articuli basalis longitudine magis inter se remotis; sulcis ocularibus profundis, ante oculos positis; antennis quam corporis dimidium multo brevioribus apicem versus sat fortiter incrassatis, articulo 3° quam 5^{us} multo longiori; prothorace minus convexo, quam longiori fere duplo (postice quam antice duabus partibus) latiori, crebre subfortiter punctulato, antice leviter sinuatim emarginato, a basi antrorsum subarcuatim angustato, basi media sat anguste sublobata, angulis bene determinatis; elytris seriatim foveolatis, foveolis inæqualibus (nonnullis elongato-sulciformibus), interstitiis planis sparsim subtiliter punctulatis; prosterno medio antice carinato; metasterno et abdomine antice in medio sat fortiter punctulatis; tarsorum posticorum articulo basali quam ceteri conjuncti paullo breviori. [Long. 5-5$\frac{1}{2}$, lat. 2$\frac{1}{2}$-2$\frac{3}{5}$ lines.

This very distinct and remarkably fine species may be at once distinguished from all its congeners by the unusual sculpture of its elytra, many of the seriate punctures taking the form of long deep sulci. It is allied to *A. variolaris*, Pasc.

N. S. Wales; Richmond R. district; sent by Mr. Masters and Mr. Lea.

A. LINDENSIS, sp.nov.

Elongato-ovalis; nitidus; rufo-piceus, prothorace nigro, elytris obscure viridibus seriatim purpureo-foveolatis; capite toto (exempli typici) in prothorace abdito; antennis ut *A. rimosi* sed minus robustis et apicem versus minus incrassatis; prothorace ut *A. rimosi* sed magis convexo; elytris seriatim subfoveolatis, foveolis rotundatis inæqualibus, interstitiis planis crebre subtiliter punctulatis; prosterno medio sulcato; metasterno toto (epipleuris inclusis) sparsim subfortiter punctulato; abdomine vix manifeste punctulato; tarsorum posticorum articulo basali quam ceteri conjuncti vix breviori.

[Long. $3\frac{1}{2}$, lat. $1\frac{4}{5}$ lines.

This is another ally of *A. variolaris*, Pasc., differing from it *inter alia* by the seriate punctures on its elytra being distinctly smaller, much more numerous and placed in perfectly regular longitudinal series, also by its much more nitid and differently coloured upper surface. The seriate punctures on the elytra are scarcely large enough to be called *foveæ;* they are of about the same size as those of *A. stolidus*, Blackb. The sculpture of the metasternum distinguishes this species from all its described allies.

S. Australia; near Port Lincoln.

A. RUGATICOLLIS, sp.nov.

Oblongo-ovalis; subopacus; niger, antennis tarsisque rufo-piceis; capite crebre subaspere punctulato supra antennarum basin modice reflexo; oculis quam antennarum articuli basalis longitudine vix magis inter se remotis; sulcis ocularibus nullis; antennis quam corporis dimidium paullo longioribus, apicem versus vix incrassatis, articulo 3° quam 5^{us} sat longiori; prothorace quam longiori (et postice quam antice) fere duplo latiori, longitudinaliter confertim subfortiter rugato, antice sinuatim emarginato, ad latera sat rotundato,

basi media distincte lobata, angulis anticis acutis subproductis posticis obtusis bene determinatis; elytris sat fortiter punctulato-striatis, interstitiis leviter convexis obsolete punctulatis; prosterno medio late concavo; corpore subtus vix perspicue punctulato, leviter rugato; tarsorum posticorum articulo basali ceteris conjunctis subæquali. [Long. 3, lat. $1\frac{1}{2}$ lines.

This species may be at once distinguished from its congeners known to me by the very conspicuous and remarkable sculpture of its prothorax, consisting of close strong more or less longitudinal wrinkles or striæ. It has been sent to me on what I cannot but admit to be valuable authority as *A. maurulus*, Pasc. I cannot however think it can be that insect seeing that Mr. Pascoe calls its prothorax "impunctate" and says nothing about any strigæ on that segment. I have seen many specimens of this species, all quite identical.

N. S. Wales; apparently widely distributed.

The following are the species of *Amarygmus* described since the publication of Mr. Masters' Catalogue of Coleoptera and before the date of this revision.

A. DIAPERIOIDES, Blackb., P.L.S.N.S.W. 1888, p. 1435.

A. TARDUS, Blackb., loc. cit. 1889, p. 1271.

A. UNIFORMIS, Blackb., loc. cit. 1889, p. 1272.

N.B.—The insect of which the following is a description has been received while this memoir was in the press, and therefore can be noticed only as an addendum.

A. TASMANICUS (? var. *uniformis*, Blackb.).

A. uniformi, Blackb., valde affinis; differt magnitudine majori, colore obscure viridi (nullo modo æneo). Long. 7, lat. $3\frac{3}{5}$ lines.

This is an extremely puzzling species owing to its great resemblance to *A. uniformis* (from N. Queensland). A careful comparison with the type of the latter has failed to reveal any very satisfactory character to distinguish it; nevertheless, its

considerably greater size and very different colour, together with the great distance from Queensland of its habitat, point to the probability that the study of more examples might prove it to be distinct. In any case it seems well to give it a name. I may add that I have seen a good many examples of *A. uniformis* from Queensland, and that they show no tendency to variation.

Clarke Island, Tasmania ; sent by C. French, Esq.